

THE  
REGULATION  
OF  
EASTER:  
OR,

1736  
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The Cause of the Errors and Differences contracted in the Calculation of it discover'd, and duly consider'd.

Shewing,

The Frequency and ill Consequence of that Error, with the Cause from whence it proceeds, and a Method propos'd for rectifying it, and reconciling the Differences about it, and for restoring the Time of celebrating that great Solemnity to its primitive Certainty and Exactness, and that without the Difficulty and Confusion which some have objected would attend such a Regulation.

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at *Tower-Hill*.

R

L O N D O N;

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# P R E F A C E.

*T*HE Surprize of People of all Ranks about the suppos'd Error in celebrating the Feast of Easter this Year 1735 on the 6th of April, when by the Rule in the Book of Common Prayer it should have been the 30th of March, and the Disputes which have happen'd upon it, hav' occasion'd the Publication of this small Piece; and the rather, because a great many that did not know much of the Matter, not only engag'd in the Dispute, but even arraign'd the Judgment of the Legislature who made the Institution. These Considerations



## P R E F A C E.

*Considerations have induc'd me, in order to set that Affair in a clear Light, humbly to give a Reason for this prevailing, and I may say increasing Error, and from the Reason known, humbly to propose a Method for not only preventing the Increase of it, but for quite rectifying and suppressing it, and restoring the Calculation of this great Paschal Solemnity to its true Primitive Institution. I shall not give any Abstract of the Contents of so small a Tract, but leave the Consideration of what I have here offer'd to the Reader's Perusal and Judgment.*

H. W.



## THE

## REGULATION

OF  
EASTER, &c.

**I**N pursuing this small, but at this Juncture necessary, Tract, and in order briefly to set it in as clear a Light as possible, the following Things will be necessary to be observ'd.

1. That the Feast of *Easter* several Times, and that in a few Years past, or to come, deviates from the general Rule given in the Book of Common Prayer, with particular Instances of the Years that it happens so, from the Year 1709 to the Year 1740 inclusive, which is only a Specimen of what may happen if we look further forward.

2. To give a Reason for this Difference, and how, or by what Means this Error has crept into the Calculation of this great Paschal Solemnity. And,

B. 3. To

3. To propose a Method by which this Error may be rectified without those Difficulties or that Confusion which, as some have objected, would be the unavoidable Consequence of such a Regulation.

1. That the Celebration of the Feast of *Easter* has several Times of late Years deviated, and will several Times, in a few Years to come (if not regulated by Authority) deviate from that standing Rule in the Book of Common Prayer, viz. *Easter-Day, on which all the rest depend, is always the first Sunday after the first Full Moon, which happens next after the one and twentieth Day of March; and if the Full Moon happens on a Sunday, Easter-Day is the Sunday after.*

Although this has been deliver'd as a Rule so well established, and by such good Authority as to be published in the *Book of Common Prayer*, which might be suppos'd to render it unexceptionable, yet if we examine for twenty five Years past, and about five Years to come (to look no further either Way) we shall find that Rule fails, as in the many Instances following.

And first, to go no further back than the Year 1709. the Full Moon that Year was on Wednesday *April* the 13th; the Sunday following was *April* the 17th, and yet *Easter-Day* that Year was not till the 24th of *April*, which was a Week after the Time determin'd by the above-mention'd Rule. An

An Error of the same kind, if it must be allow'd to be an Error, happen'd in the Year 1711. the Full Moon that Year being on the 23d of *March* (two Days after the 21st), the next Sunday was the 25th of *March*, which by that Rule should have been Easter-Day, but that Solemnity was appointed by the Table in the Book of Common Prayer to be on the first of *April*, and was publish'd in the Almanacks, and celebrated on that Day accordingly; and the like Deviation from that original Rule happen'd in the Year 1712. the first Full Moon after the 21st of *March* happen'd that Year on the 10th of *April*, the next Sunday after that was the 13th of *April*, and consequently should have been *Easter-Sunday*, and yet *Easter-Day* was not till the 20th of *April*, which was a Week after, as it has happen'd this Year 1735.

But allowing that Rule to be the indispensable Standard for the Celebration of *Easter*, there was a much greater Error contracted in the Year 1714. than any of the above-mention'd; for in that Year the first Full Moon after the *one and twentieth of March*, was on the 18th of *April*, which being on a Sunday, *Easter-Day* should (according to the last Clause of the Rule above-mention'd) have been on the 25th of *April*; but notwithstanding that, the Table in the Book of Common Prayer, and also the Almanacks for that Year unanimously settled it on the 28th of *March*, and it was ce-



celebrated on that Day accordingly, without any Opposition or Dispute, although it was just a Month before the Day appointed by the above-mention'd Rule, and indeed here that Rule seems to be quite disregarded; for *Easter-Day* that Year was neither *the first Sunday after the first Full Moon which happen'd next after the one and twentieth of March*, nor indeed was it the first Sunday after any Full Moon at all.

Again, in the Year 1715. the first Full Moon after the 21st of *March* was on Thursday the 7th of *April*, and consequently the 10th should have been *Easter-Sunday*, and yet it was kept on Sunday the 17th of *April*. Also in 1718. the first Full Moon after the 21st of *March* was *April* the 4th, the next Sunday was *April* the 6th, and yet *Easter-Day* was not till *April* the 13th.

But as I would neither be tedious upon this Head on one Hand, nor neglect any Thing material in the present Case on the other, I shall only observe, that in the Years 1721, 1724, 1728, 1732, and this Year 1735. there was a Sunday between the Full Moon and *Easter-Day*, and consequently it was not *the first Sunday after the first full Moon*, &c. This Deviation from that Rule appear'd also very evident in the Year 1733. the first Full Moon after the 21st of *March* being on Wednesday the 18th of *April*, and consequently Sunday the 22d should have been *Easter-Day*, but it was kept that Year on the 25th of *March*,

## of E A S T E R.

5

*March*, viz. just a Month before the Day given by the Rule, the Full Moon in *March* being on the nineteenth Day, and therefore not after the one and twentieth; and not to make any Repetition of the same happening this Year 1735. it will also happen in the Years 1736, 1738, and 1739. (not to pursue it any further) there will be a Sunday between the full Moon and *Easter-Day*.

But what is still more remarkable is, in the Year 1725. (although I have not taken it in its proper Order) and with which I shall conclude this List of *Easters* that have happen'd contrary to the above-mention'd Rule, and that is, that the Full Moon in *March* was on the seventeenth Day, viz. four Days before the twenty first, and the next Full Moon after the twenty first was on the 16th of *April*, which happen'd on a Friday; and the eighteenth Day being the *Sunday after*, should by that Rule have been *Easter-Day*, and yet it was that Year celebrated on the 28th of *March*, bearing no Conformity to the Rule in one Respect or other; for first it was three Weeks before the Sunday given by the Rule, and secondly it was not the first Sunday after any Full Moon at all, as was the Case in the Year 1714. before-mention'd.

Perhaps after this Enumeration of Instances of *Easter* happening contrary to the establish'd Rule above-mention'd, it may not be thought an improper Question to ask, Why this Discovery was never made, and this Mistake in the Calcu-

Calculation of the Feast of *Easter* found out before now? And in this Case I must own I can only give a general Answer, grounded upon a paradoxical Proverb, which inadvertently affirms, that *Every-Body's Business is No-Body's Business*. However, I suppose what is intended to be understood by it is, that what equally concerns a Community, is not the Province of any one particular Person; but I would answer, that when a growing Error is indulg'd, or at least dispens'd with from Time to Time, till it cannot be any longer conceal'd, it will some Time or other break out, and shew itself; and if so, some Time, some Place, some Person, &c. must be first in propagating and promulgating the Discovery.

I shall not pursue this Affair any further, having given Instances above of *Easter* deviating from the Rule in the Book of Common Prayer sixteen Times in thirty one Years; I shall next enquire into the Reason of this Error or Difference in the Calculation of this great Festival, that when the Cause is discover'd, it may be a great Step towards a Method for removing any Difficulty or Confusion that may attend the finding the true Time of the Celebration of *Easter*, according to the primitive Design and Institution of it, his Majesty and the Legislature should vouchsafe to take it into Consideration.

As to the Cause of this Error thus insensibly contracted, and yet hitherto frequently prevailing,

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ing, it is to be imputed to the Difference between the *Julian* and *Gregorian*, or, in other Words, between *English* and *Foreign* Accounts. The *Foreign* Account, which is eleven Days before ours, being nearest the Truth, yet not exactly true by some Days, as shall be prov'd hereafter, with a Reason assign'd for that Error, whilst our *English* Account differs as much from the Truth as it differs from theirs; and in order to make this the more intelligible, it is proper to consider what was the Reason that the 21<sup>st</sup> of *March* was fix'd upon as the Day to govern the great Festival of *Easter*, and this may be done with little Difficulty, if we consider that at the Time of the *Nicene* Council when these Regulations were made, and which was in the Year of our Lord 322, the vernal Equinox was on the 21<sup>st</sup> of *March*, and the Regulation then made with respect to *Easter* was upon a Supposition that the vernal Equinox would always continue to be on the *twenty first of March*, as it does to this Day, and will always continue so to do in the Foreign Account, for which I shall first quote Mr. *Vincent Wing* in his *Astronomia Instaurata*, and then give Reasons why it is so. His Words are these, speaking of the Restitution of the Calendar.

“ Forasmuch as the Earth, in the Space of  
 “ 365 Days 5 Hours 49 Minutes 4 Seconds,  
 “ doth make her annual Revolutions in her Ex-  
 “ centrick-Circle, departing from some known  
 “ Point thereof, and returning to the same a-  
 “ gain

“ gain, which we call the tropical Year, it  
 “ therefore cometh to pass, that the *Julian*  
 “ Year, containing 365 Days and 6 Hours, (as  
 “ it was formerly established by the Church)  
 “ must needs exceed the true Year 10 Minutes  
 “ 56 Seconds, which Defect, since the first E-  
 “ stablishment thereof, hath much altered, not  
 “ only the Paschal Solemnity, but also the E-  
 “ quinoxes and Solstices, and therefore Pope  
 “ *Gregory XIII.* to bring the Paschal Solemnity,  
 “ and the Equinoxes and Solstices to their  
 “ Seats they were in at the Time of the *Ni-*  
 “ *cene* Council, *Anno* 322. (for the Equinox  
 “ was then the 21st of *March*) ordered, that  
 “ for its Restitution, there should be ten Days o-  
 “ mitted in the Month of *October* 1582, and  
 “ so the 5th Day should be accounted the 15th,  
 “ (as you may see in the Ephemeris of *Maginus*  
 “ for that Year) and from thence so to con-  
 “ tinue till the Year 1700 *February* 24, from  
 “ which Time the *Gregorian* Year must exceed  
 “ the *Julian* 11 Days, and from that Year in-  
 “ clusive every fourth Centenary to be Bissex-  
 “ tile, and the rest of the Centenaries to be com-  
 “ mon Years of 365 Days a-piece, whereby  
 “ every 400 Years shall gain 3 Days of what  
 “ the *Julian* loses.”

This being consider'd, it may be easily un-  
 derstood, that when the Rule for that Festival  
 was laid down and establish'd by a Law, that  
*Easter-Day* should be the first *Sunday* after the  
 first Full Moon which should happen next af-  
 ter

ter the one and twentieth of *March*, &c. it meant no more than that *Easter-Day* should be always the first Sunday after the first Full Moon which should happen next after the vernal Equinox, &c. and to them that in their annual Revolutions allow for the (near) eleven Minutes a Year above-mentioned, this Way of finding *Easter* will be a perpetual Rule; but to us, who by the disregarding that eleven Minutes, in Process of Time contracted an Error of ten Days before the Year 1700, and of eleven Days ever since (we having now the vernal Equinox eleven Days before the twenty first of *March*, which was then the true Time of it, and the Reason of that Day being assign'd for the Regulation of *Easter*) makes it become an uncertain Rule to us, and if not rectified, it will become no Rule to us at all.

But for the Satisfaction of those who may think that the *English* Account is the only true Account, and any that differ from it are so far wrong; for the Sake of such, I say, I shall give the following Hint as to the Reason of the Difference between the *English* and foreign Accounts, and that the latter is so near the Truth as above-mentioned; but that the *English* Account has contracted an Error of so much as they differ, and that by the following Means.

The true tropical Year is three hundred and sixty five Days and near six Hours; which if it were exactly so that six Hours every Year would amount to a Day, or twenty four Hours



in four Years, and upon this Supposition, or I may rather say, upon an indulging of this known Error, the *English* Account adds a Day to *February* every fourth Year, and that is therefore called Leap-Year, but without any Allowance for the eleven Minutes which the Year is short of the three hundred sixty five Days and six Hours above-mentioned.

But to be a little more exact, let us consult the following Authors: Mr. *Wing* before quoted, says, that the true tropical Year consists of 365 Days 5 Hours 49 Minutes 4 Seconds. Mr. *Street* in his *Astronomia Carolina*, says it is 365 Days 5 Hours 49 Minutes, and but one Second; but Mr. *Holden*, writing upon the same Subject, says, it is 365 Days 5 Hours 49 Minutes 16 Seconds. But to wave this Over-Curiousness, I shall suppose, as a Medium amongst all the rest, that the Year contains 365 Days 5 Hours 49 Minutes and 12 Seconds, which, if granted, then our adding six Hours every Year, or a Day in four Years, is ten Minutes forty eight Seconds too much, and that in four hundred Years amounts to three Days, and agrees exactly with Pope *Gregory's* Institution of correcting the Calendar, and is as follows:

He considering what a gross Error the adding of six Hours, instead of five Hours and about forty nine Minutes, would in Process of Time amount to, he, in the Year 1582, corrected the Calendar as far back as the Year 322, which was the Time of the *Nicene* Council, at which

Time

Time the vernal Equinox, or the Sun's (apparent) Entrance into *Aries* was on the 21st of *March* (which by the Way gave rise to that Day being still appointed to govern *Easter*, though the Equinox in the *English* Account is receded back from it eleven Days) and this Correction of his being for 1260 Years past, and allowing, as above, three Days for four hundred Years, it amounted to (near) ten Days, which he order'd to be taken out of *October* 1582, making the fifth Day the fifteenth, and then their Account so corrected was ten Days before ours that remained uncorrected, and so continued till the Year 1700, at which Time they gain'd another Day of us, that being Leap-Year with us, as being the fourth Year, but not with them, by reason of their allowing three Days in four Hundred Years to account for the Minutes above-mentioned, and by this Means their Account has since the Year 1700 been eleven Days before ours; so that their Twelfth Day is our first, and they keep the vernal Equinox in its original Situation, *viz.* on the 21st of *March*, and by Reason of this Regulation of their Calendar being so exactly kept up, their *Easter* always answers the Rule in our Book of Common-Prayer, and with them *Easter-Day is always the first Sunday after the first Full-Moon which happens next after the one and twentieth of March.*

And as we observ'd before, that an Error of ten Minutes forty eight Seconds in a Year,

amounts exactly to 3 Days in four hundred Years, Pope Gregory order'd that every fourth Year in general should be Leap-Year as with us, only that in the new Centuries every fourth Century only should have a Day added as Leap-Year, and the other three should be common Years, though they are to be Leap-Years with us, and by this Means they gain three Days of us every four hundred Years; as for Instance, the Year 1700 was no Leap-Year with them, although it was a Leap-Year with us, and then they gain'd a Day, and their Account was eleven Days before ours. Also the Year 1800 will be a Leap-Year with us but not with them, and then their Account will be twelve Days before ours, and their thirteenth Day will be our first; and not to enquire any further, if the World continues four thousand Years after the Year 1702, viz. till the Year 5700, they will gain thirty Days more of us, which, with eleven they have gained already, will make forty one, and our first of *March* will be their eleventh of *April*, and they vernal Equinox, which is about their 21st of *March* and our Tenth, will still keep to their 21st, by Reason of the Correctness of their Calendar, but with us it will be receded back. So that about the eighth of *February* the Sun will rise and set at six, and about the eighth of *May* will be our longest Day, and about our ninth or tenth of *November* will be the shortest, and our *Christmas* will happen near seven Weeks after the shortest Day, which



which is about the same Time, with respect to the Season of the Year, the Length of the Days, &c. that we now have *Candlemas*.

And to shew yet further, how the Error of the *Julian* or *English* Account encreases, I have inserted the following short Table, whereby we may see how far the present Account, if not rectify'd, will lose of the true Account, and that in the Year 4100 we shall have lost twenty nine Days, &c. The Use of the Table follows it.

A TABLE of the Reduction of the Days of the JULIAN Year, to the Days of the GREGORIAN Year, and the contrary.

<u>From Oct. 5.</u>		<u>From Feb. 24.</u>	
Anno Dom.	Add Days	Anno Dom.	Add Days
1582	10	25400	16
1600	10	2500	17
1700	11	2600	18
1800	12	2700	19
1900	13	2800	19
2000	13	2900	20
2100	14	3000	21
2200	15	3100	22
2300	16	3200	22

<u>From Oct. 5.</u>		<u>From Feb. 24.</u>	
Anno Dom.	Add Days	Anno Dom.	Add Days
1582	10	3300	23
1600	10	3400	24
1700	11	3500	25
1800	12	3600	25
1900	13	3700	26
2000	13	3800	27
2100	14	3900	28
2200	15	4000	28
2300	16	4100	29

When you are to reduce Days of the *Julian* Year into the Days of the *Gregorian* Year, enter the Table with the Year given, and the Days there found add to the Days of the *Julian* Year.

Admit the Time proposed were the 10th of *March* 1810: Therefore against 1800, I find 12 Days, which being added to the ten Days maketh 22: So that I conclude the 10th of *March* 1810 Old Stile, is the 22d of the same Month, New Stile.

But as I have now prov'd that the general Rule in the Book of Common Prayer for finding *Easter* has failed so often in so few Years, and have explain'd the Reason of the Error in the *Julian* or *English* Account, and that that Error contributes to the Difficulty that we labour under in finding the true *Easter*, some People may think it a very proper Question to ask by what Rule it is that *Easter* is found? for we find that in all the Ephemerises or Almanacks, of which there are above twenty different Sorts published every Year, done by several Authors, some in the City, others in the Country, and so far asunder, that some of them have never seen one another, much less conversed together, and yet all the Almanacks always fix *Easter* upon the same Day, whether it agrees with the above-mentioned Rule or not.

There have been several Rules advanced, and generally received, for determining the  
Time

Time of the Celebration of the Feast of *Easter*, and all the rest of the Moveable Feasts that depend upon it, and amongst the rest one that has prevail'd very much, especially amongst Country People, and that is, *That Shrove-Tuesday is always the first Tuesday after the second Change or New Moon that happens that Year*; and the Day after being *Ash-Wednesday*, or the first Day of *Lent*, the forty Days of *Lent* are accounted from *Ash-Wednesday* to *Good-Friday*, inclusive of both, or reckoning *Ash-Wednesday* the first Day of *Lent*, and *Good-Friday* the last; but at this Way of reckoning there is forty five Days between *Ash-Wednesday* and *Good-Friday*, when both are included, which is five Days more than the intended forty Days of *Lent*; but if we allow, as at other Times of the Year, that Sundays are always Festivals, and therefore to be excepted from being Part of the abstemious Time of *Lent*, and there being six Sundays between *Ash-Wednesday* and *Good-Friday*, take them from the forty five Days, and there will remain thirty nine; and if we should admit of *Shrove-Tuesday* as a Preparative to *Lent*, as its Name imports, it will make up the forty Days compleat.

But granting that this is the forty Days originally intended, yet the above-mention'd Rule often fails in the finding of *Shrove-Tuesday*, though not so often as the Rule first mention'd, for finding *Easter* by the *first Full Moon after*  
*the*



the one and twentieth of *March*; but in the thirty one Years from 1709 to 1739 inclusive, it fails in the Years 1709, 1712, 1732, 1736, 1738, and 1739, and in 1717 it was the first Tuesday after the third Change or New Moon in that Year; but then the first New Moon that Year was on the first of *January*, the second on the thirty first of *January*, and there being no New Moon in *February* that Year, the third New Moon was the second of *March*, which was Saturday, and the Tuesday following being the fifth of *March*, was *Shrove-Tuesday*; and an Error of the like kind will happen in the Year 1736, the first New Moon that Year being on the second of *January*, and the second on Saturday the thirty first of *January*, and accordingly by this Rule *Shrove-Tuesday* should be the third of *February*, and *Easter-Day* on the twenty-first of *March*; but *Shrove-Sunday* will not be that Year till the Tuesday after the third New Moon, and *Easter* on the twenty fifth of *April*; nor can *Easter-Sunday* ever fall so low as the twenty first of *March*, or so high as the twenty sixth of *April*, it being always limited to fall between these two Days, exclusive of them both; and although that be sufficient to prove the Rule far from being infallible, yet some that have had it by Tradition, adhere so closely to it, that it is difficult for the greatest Artists, or the best Astronomers, to drive them from it. However, thus much I thought proper

# of EASTER.

17

proper to observe, and that this is not the Way to be depended upon for finding *Easter*.

But the Way that is now made use of for finding *Easter* by all Authors that use the *Ju-  
lian* or old Account, is by the Help of the Golden Number, and the Dominical Letter, which being necessary to be known before any Progress can be made in finding *Easter* by them, I shall first shew how to find them, and then how to find *Easter* by them.

And first to find the Golden Number, add 1 to the Year of our Lord (for the Golden Number was 1 when our Blessed Saviour was born) and divide the Sum by 19, and what remains after Division, is the Golden Number. Example to find the Golden Number for the Year 1735.

Year given	1735
Add	1
Sum	1736

Divided by 19) 1736 (91

26

Remainder

7 is the Golden Number.

To find the Dominical Letter.

Add the Year and its fourth Part (omitting Fractions) together, and to the Sum add 4,  
D which

which Sum divide by 7, and substract the Remainder from 7, this last Remainder is the Number of the Dominical Letter, accounting A 1, B 2, C 3, D 4, E 5, F 6, and G 7.

To find the Dominical Letter for this Year  
1735.

The Year	1735
Its fourth Part	433
Add	4
Sum	<u>2172</u>

Divide by 7)2172(310  
002

From 7

Take the Remainder 2

Refts 5

Which shews that the Dominical Letter is E for the Year 1735.

But a readier Way to find the Golden Number and Dominical Letter is, to the Golden Number for the present Year add 1, it produces the Golden Number for the next Year; but if the Sum exceed 19, cast away 19, the Remainder is the Golden Number for 1734, being 6; the Golden Number for 1735 is 7; but the Golden Number for the Year 1728 being



being 19, the Golden Number for 1729 was 1.

But the Dominical Letters falls a Letter back every Year till it comes to A, and then the next Year it is G, except when it is Leap-Year, and then there are two Dominical Letters. Thus in the Year 1726 the Dominical Letter was B, and in the Year 1727 it was A, but in the Year 1728, being Leap-Year, it was G and F, the first serving from the first of *January* till the twenty fourth of *February*, and the latter serving from thence to the Year's End, and being the Letter to be used for finding *Easter* that Year.

Having thus found the Golden Number and Dominical Letter; *Easter* is found by the following Table, by finding the Dominical Letter at the Head of the Table, and the Golden Number in the Left-Hand Column, and against it, and under the Dominical Letter you find the Day of the Month on which *Easter* falls.

**D 2 A TABLE**

A TABLE shewing how to find *Easter* for ever,  
by the Help of the Golden Number and  
Dominical Letter.

G N.	A	B	C	D	E	F	G
i.	Apr. 9	10	11	12	6	7	8
ii.	Mar. 2	27	28	29	30	31	Apr. 1
iii.	Apr. 16	17	18	19	20	14	15
iv.	Apr. 9	3	4	5	6	7	8
v.	Mar. 26	27	28	29	21	24	25
vi.	Apr. 16	17	11	12	13	14	15
vii.	Apr. 2	4	4	5	6	Mar. 31	Apr. 1
viii.	Apr. 23	24	25	19	20	21	22
ix.	Apr. 9	10	11	12	13	14	8
x.	Apr. 2	3	Mar. 28	29	30	21	Apr. 1
xi.	Apr. 16	17	18	19	20	1	22
xii.	Apr. 9	10	11	5	6	7	8
xiii.	Mar. 26	27	28	29	30	31	25
xiv.	Apr. 16	17	18	19	13	14	15
xv.	Apr. 2	3	4	5	5	7	8
xvi.	Mar. 26	27	28	22	23	24	25
xvii.	Apr. 16	10	11	12	13	14	15
xviii.	Apr. 2	3	4	5	Mar. 30	31	Apr. 1
xix.	Apr. 2	24	18	19	20	21	22

Now by the foregoing Directions to find *Easter-Day* for the Year 1735, we have found above that the Golden Number for that Year is 7, and the Dominical Letter E, therefore look against 7 that stands in the first Column, and under E, at the Head of the Table, and you find 6, which by looking back to the Column under A, you find is *April 6*, which is *Easter-Day* 1735, and this is the Way by which the Table is calculated in the Book of Common Prayer to find *Easter-Day*, on which  
all

*all the rest of the Moveable Feasts depend*, which is sometimes calculated for forty Years, and will be the perpetual Rule for it, except there should be a Regulation of the Calendar.

But before we quit this Subject, it may not be amiss to observe, that *Easter* may be found without the above-mentioned Table, by the Help of the Epact, which is thus found.

Multiply the Golden Number by 11, divide the Product by 30, and what remains after the Division is the Epact. Thus in the Year 1735 the Golden Number is 7, which multiplied by 11, the Product is 77; that divided by 30, the Quotient is 2, but the Remainder which is what is now wanted is 17, which shews that the Epact in the Year 1735 is 17.

As the Divisor to find the Epact is 30, it is impossible that the Epact (which is the Remainder of that Division) should be more than 29, which is therefore the greatest Epact, which being premis'd, the two greatest Epacts are 28 and 29, and then the Rule to find *Easter Limits*, or the latest that it can fall, is thus found.

If the Epact be less than 28 or 29, subtract the Epact from 47, but if 28 or 29, subtract it from 77, the Remainder is call'd *Easter Limits*, which if reckon'd from the first of *March*, (including the first of *March* for one) finds a Day of the Month, the first Sunday after which is *Easter-Day*.

Thus



Thus in the Year 1735 we have found the Epact 17, which subtracted from 47, the Remainder is 30, which reckon'd from the first of *March* inclusive, brings the 30th of *March*, which being *Sunday*, and *Easter-Day* being always the *Sunday* after it, points out *April* the 6th, which accordingly was *Easter-Day*.

But if it had been required to find *Easter-Day* for the Year 1728, the Golden Number for that Year was 19, and consequently the Epact 29; which being one of the two greatest, must be taken from 77, the Remainder 48, accounted from the first of *March* inclusive, points out the 17th of *April* for *Easter Limits*, and the *Sunday* following being *April* the 21st, is *Easter-Day*.

But this Rule only finding the Limits, the next *Sunday* after the Expiration of which is *Easter-Sunday*, may not be thought satisfactory, and therefore to make the Rule compleat, I shall add Directions for finding the Day itself, the foregoing Requisites being first found; that is,

To the Number of the Dominical Letter found as above, add 4, and subtract that from the Limit found as above, and observe what remains, which take from the next greater Number of sevens, the last Remainder added to the Limit, the Sum reckon'd from the first of *March* inclusive shall

shall point out *Easter-Sunday*, whether in *March* or *April*.

Example. In the Year 1735 above-mentioned, the Dominical Letter is E, or 5, to which add 4, the Sum is 9, which substracted from the Limit 30, (found as above) the Remainder is 21, which taken from the next Number, which may be divided by 7 without a Remainder, *viz.* 28, there Remains 7, which added to the Limit 30, the Sum is 37, which accounted from the first of *March* inclusive, it falls upon the 6th of *April*, which is *Easter-Day* in the Year 1735.

But as the Difference about the Time of celebrating the great Solemnity of *Easter* has been the Occasion, as well as the Subject of this Discourse, and that Difference having been occasion'd by our not accounting for the odd Minutes, which has occasion'd the Retrocession of the Equinox, and the Error in our Account before explain'd, it may not be amiss to observe that this Error in the *Julian*, *English*, or Old Account which we use, has further involved us in another Difficulty (I had almost said Confusion) which being duly consider'd, and the Cause understood, may be remedied as follows. But I must first assume as a *Postulata* what I have already prov'd, that our Error in finding the true Time of the Paschal Solemnity is owing to an Error in our Account of Time: For

It

It is thereby certain, that this Deviation from the Rule in the Book of Common Prayer, which is, that *the first Sunday after the first Full Moon next after the one and twentieth of March should be Easter-Sunday, &c.* is occasion'd by that Rule being adapted to the Time of the *Nicene Council*, which was held in the Year 322, the Time to which Pope *Gregory* corrected the Calendar, and no further back, and the vernal Equinox was then on the 21st of *March*; but if we should make an additional Correction for that 322d Year, and bring it back to the Time of the Birth of our Saviour, we shall then find that allowing three Days in four hundred Years, viz. a Day in 133 or 134 Years, that Allowance in 322 Years, which was the Number of Years after the Birth of our Saviour that the *Nicene Council* was held, would amount to between two and three Days; if therefore we allow three Days to be added to the 21st of *March*, because the Retrocession of the Equinox increases, it will then bring the 24th of *March* for the Time of the vernal Equinox in the Year of our Saviour's Incarnation, and gives us Reason to believe, even beyond Conjecture, that the Time of the vernal Equinox was on the 24th of *March*, or some Time in the Evening between the 24th and the 25th of *March*.

This Consideration leads me further to examine into the Reason of the Order in the Rubrick of the Church of *England*, which in the

Book



Book of Common Prayer is, Note, That the *Supputation of the Year of our Lord in the Church of England* beginneth the five and twentieth Day of March; and as I find, and I think I have sufficiently prov'd that, in the Year of our Saviour's Incarnation the Equinox was on the 25th of March, it gives us an indisputable Reason to think that the Incarnation of our blessed Saviour (otherwise called the Annunciation of the blessed Virgin *Mary*, and now known amongst Farmers and others by the Name of *Lady-Day*) was on the 25th of March, and at the Moment of the vernal Equinox; and this being the first Step to the actual Work of Redemption, was for that Reason made the Beginning of the Year in the Church of England, and here, indeed, there is Room for a Regulation; for the *Supputation of the Year in the Church of England* was appointed to begin on the five and twentieth Day of March, not because it was the twenty fifth of March, but because it was the Time of the vernal Equinox, which is now receded so far back as from the five and twentieth of March to about the tenth, and that occasion'd only by an Error in our *English Account*, and from hence comes our different Accounts of Time, some beginning the Year on the 25th of March by the Authority of the Rubrick of the Church of England, whereas if it was to take Date from the vernal Equinox (the first Institution of it) the Year would now begin about the 9th or 10th of

E

March

*March*, which, by the Error of our Account, is now the Time of the vernal Equinox.

But while we are maintaining this Beginning of the Year according to the Rubrick of the Common Prayer above-mentioned, we seem to forget that our Year begins the first of *January* both in our common licensed Almanacks, and even in the Book of Common Prayer itself; and it may amount to a Question very difficult to be answered, why the Rubrick of the Common Prayer enjoins the Year to begin on the 25th of *March*, and yet the Calendar for the Lessons, &c. begins on the first of *January*?

As to the Year's beginning the 25th of *March*, I think I have fully accounted for it, as being the Time of our Saviour's Incarnation, and of the Time of the vernal Equinox; but the most difficult Part to be accounted for is, why the Year should begin the first of *January*, and continue so without Contradiction, when the Rubrick of the Common Prayer says expressly, *That the Supputation of the Year of our Lord in the Church of England beginneth the five and twentieth Day of March.*

I must own it is very difficult to account for those different Commencements of the Year, when both are established, one by Authority, and the other by Precedent; but I humbly suppose the Reason assigned already for the Year's commencing at the vernal Ingress is established by the Reasons given; and as for the Year's beginning

ginning the first of *January*, I find no Reason but Custom, and from thence Authority, except it was kept in Memory of our Savionr's Circumcision, and thereby fulfilling the Ceremonial Law, and giving Birth to the Christian Religion.

But after the Methods proposed for a Regulation of the Calendar, it may be, and has been objected, that some Difficulties would attend it by Reason of Dates of Writings, Interest of Money, &c. if the fourteen Days were all allow'd for in one Year, as was the Case in *Gregory's* regulating the Calendar in the Year 1582. But to Remedy this Inconveniency I would observe, that as our one Day added to *February* every fourth Year, call'd therefore Leap-Year, has been dispensed with, and is now become so customary, that it is not deem'd a Disturbance at all, certainly, if those additional Days in *February* were omitted, and every *February* for fifty six Years, amongst which would be fourteen Leap-Years, should not have the additional *twenty-ninth* Day, it would not be found wanting, and yet this Omission would repair the Error in our *English* Account, without any sensible Loss or Damage to any particular Person, as will be further demonstrated, if the Government please to take it into Consideration.

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